

IN THE CLAIMS:

The following is a complete listing of claims in this application.

Claims 1-16 (canceled).

17. (currently amended) Injection device according to claim ~~15~~ 26, wherein, in the second position, the rod emerges beyond the end hole.

Claim 18 (canceled).

19. (currently amended) Injection device according to claims ~~15~~ 26, additionally comprising an elastic element which holds the rod in the first position.

20. (currently amended) Injection device according to claim ~~15~~ 26, additionally comprising an automated control device connected to the rod.

21. (currently amended) Injection device according to claim ~~15~~ 26, wherein the nozzle comprises at least one rod guidance means.

22. (previously presented) Injection device according to claim 21, wherein the rod guidance means comprises a ring presenting a central hole and peripheral holes.

Claim 23 (canceled).

24. (currently amended) Injection device according to claim ~~15~~ 26, additionally comprising elastic means which maintains the rod in the first position, wherein exertion of pressure on the ~~manual control device~~ control means moves the rod into the second position for unblocking the end hole.

25. (currently amended) Treatment tank for molten metal, comprising at least one gas injection device according to claim ~~1~~ 26.

26. (new) Device for injecting a treatment gas into a molten metal contained in a tank, the device being constructed and arranged to be fixed to a wall of the tank and comprising:  
a tubular housing passing through the wall of the tank

and extending from an upstream end external to the tank and attached to the wall of the tank, to a downstream end within the tank to which an injection nozzle is attached for injection of gas therein through an end hole, the upstream end of the tubular housing comprising a closure generally opposite to the injection nozzle and means for connection to a source of gas for injection,

a rod which is disposed within the tubular housing and slidable therein, the rod having a diameter which decreases in steps from an upstream end disposed within the upstream end of the tubular housing to a downstream end disposed adjacent the nozzle, the upstream end of the rod having an outer diameter sufficiently close to an inner diameter of the upstream end of the tubular housing to provide a leaktight seal therebetween, and the downstream end of the rod having a diameter dimensioned for unblocking the end hole, and

control means for linearly moving the rod through the tubular housing in a back and forth manner, comprising a rod extension from the upstream end through the closure by a predetermined length, and terminating in a control device,

wherein the rod is linearly movable by the predetermined length from a first position in which the downstream end of the rod is adjacent the downstream end but set back from the end hole so as to enable passage of the treatment gas, to a second position in which the rod unblocks the end hole,

the upstream ends of the rod and the tubular housing maintaining leaktightness throughout the back and forth movement.

27. (new) Injection device according to claim 26, additionally comprising a seal disposed between the upstream end of the rod and the upstream end of the tubular housing.

28. (new) Injection device according to claim 27, wherein the tubular housing has an internal diameter which decreases

in at least one step from the upstream end to the downstream end, and the rod comprises a second seal which seals the rod against the at least one step upon movement of the rod.

29. (new) Injection device according to claim 26, wherein the control device is a handle means.

30. (new) Injection device according to claim 26, wherein the control device is an automated device.

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